Exemption No. 7259

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056

In the matter of the petition of

Bombardier Aerospace

for an exemption from § 25.813(e), of Title 14, Code of Federal Regulations

Regulatory Docket No. 29819

GRANT OF EXEMPTION

By letter #NAI5012-98-0912, dated July 12, 1999, Mr. Michel Rousseau, Aircraft Certification Engineer, Transport Canada, submitted a petition for exemption on behalf of Bombardier Completion Centre. By letter dated July 8, 1999, Mr. Bogdan Kmieciak, Manager, Engineering, Bombardier Completion Centre, 200 Chemin Côte Vertu Ouest, Dorval, Quebec, H4S 2A3, Canada, and by letter #M4568-00-MW003, dated May 9, 2000, Mr. Michael L. Williams, DAS Staff Coordinator, Bombardier Aerospace PO Box 11156, Tucson, Arizona, petitioned for an exemption from the requirements of § 25.813 (e) of Title 14, Code of Federal Regulations (14 CFR). This exemption, if granted, would permit installation of interior doors between passenger compartments on the Bombardier Global Express airplane, Model BD-700-1A10. The original petition was modified by the May 9, 2000, letter to request that installation of more than one interior door be permitted.

The petitioner requests relief from the following regulations:

Section 25.813(e) prohibits the installation of doors between passenger compartments.

ANM-00-190-E

The petitioner's supportive information is as follows:

"The purpose of this letter [petition] is to request an exemption to Federal Aviation Regulations (FAR) 25.813(e) to permit the installation of doors in partitions between passenger compartments in BD-700-1A1O aircraft used for corporate transport. In support of this request, Bombardier Completion Center is proposing alternative design requirements to provide a level of safety appropriate to the operation of corporate aircraft equipped with partitions with doors.

"The BD-700-1A1O aircraft is designed to the requirements of FAR part 25, for Transport Category. These rules are addressed basically to Transport Category airplanes that are used for the carriage of fare paying passengers from the general public, and also must consider aircraft with passenger seating up to 500. The BD-700-1A1O on the other hand, is Type Certified for a maximum of 19 passengers and will be outfitted exclusively for corporate use. The difference between the commercial Transport Category aircraft used in airline operation and aircraft specifically used for corporate operations (whether private or non-scheduled commercial), are not segregated in the FAR part 25 rules. Bombardier Completion Center contends that airplanes specifically designed for corporate service, whether private or commercial, should be eligible for the acceptance by exemption of cabin features and facilities which do not comply with the full requirements of FAR part 25, provided a similar level of safety is provided and can be demonstrated. The corporate fleet utilizing aircraft certified in the Transport Category world wide, has now grown to a point where it is contended that the certification agencies need to consider a new revised design rules for aircraft involved in this class of operation.

"Aircraft specifically designed and outfitted for corporate operation generally carry passengers familiar with flying and very familiar with the specific aircraft in which they travel. Also, unlike an airliner, the crew of a corporate aircraft has day to day contact with the people who are their passengers; thus safety communications is positive. Add to this the fact that these aircraft are generally operated continuously by one crew who is intimately knowledgeable of the specific aircraft. Furthermore, when a partition is installed, it is not possible to install more than 15 passenger seats, which are certified for take-off and landing because of the limitations inherent in full compliance with FAR 25.562. This in itself is a compensating factor. Therefore, the combination of these facets of corporate operation provide an initial level of safety which can never be achieved in an airliner, thus necessitating the latter to require a more complete set of regulatory safety features to achieve the same result. However, as stated above, it is intended to incorporate mechanical features in the door design, which will enhance the safety of the aircraft with partitions and doors dividing the passenger seating area.

"Additional Safety Features:

"1. The cabin of the BD-700-1A1O is approximately 8-feet wide. It is necessary to divide the cabin full width laterally, to produce a private area, because a side corridor is impractical. The doors to be installed would be sliding pocket doors retracting into the partition on one side of the aircraft. The doors would require a retracting footer because with cabin headroom of 6-feet, the door must slide downward tangential to the fuselage contour. The door would be frangible to enable it to be broken open in an emergency, in addition to having blowout capability for decompression.

"2. This would allow sections of the passenger seating area to be used as a private office or bedroom during long duration flights. The proposed doors would have a placard, requiring them to be open for take-off and landing.

"3. The doors would also be equipped with double means of locking them open, such that the probability of unlocking due to distortion of the fuselage in an emergency landing would be minimized. Either means will be capable of supporting the inertia loads in FAR 25.561.

"4. Furthermore, it is proposed that either a white or blue "door closed" advisory light would be provided in the instrument panel. It is proposed that the light would automatically extinguish with gear retraction, remain off during flight and illuminate with gear down if a door was not latched open. This would provide the crew with sufficient time to have the cabin set for landing. [Note that an amber caution light was proposed in the original petition.]

"5. The emergency exit sign requirements will be addressed separately to ensure that the level of passenger guidance required to find an exit will be provided. This would have to be done on each aircraft since there are often differences between the individual aircraft interior arrangements.

"6. The Passenger Information Card (PIC) would contain a section describing the action of the doors, the emergency features included and instructions for latching the doors open for taxi, take-off and landing.

"Effect of the Exemption:

"The effect of the safety features described above is to ensure that there is always a clear path through the partition to an emergency exit. However, even if some extreme condition should result in a door being closed or partially closed after an accident, there are still simple means to get through the door to reach an exit. The frangibility feature will be tested using 5-percentile female and the resulting aperture demonstrated to be large enough to allow for a 95-percentile male to escape. Because the basic issues of a

passenger finding and reaching an exit in an emergency are addressed by the above features and the natural safety parameters inherent in corporate operation, it is argued that the exemption as requested would provide a level of safety for the passengers in the BD-700-1A10 aircraft, which would be equal to that required for airline aircraft.

"Issue of Public Interest:

"Bombardier Aerospace Group is a major international corporation, which provides business aircraft to an international market. They manufacture principally in Canada and the U.S.A. and therefore employ a large staff in both countries. The aircraft manufactured by Bombardier are equipped with avionics and other specialized systems and equipment manufactured in North America. This business provides competition to manufacturers in Europe and elsewhere, and maintains considerable employment in North America. With the growing numbers of Transport Category corporate aircraft predicted and the stabilizing effect that manufacture and support has on the job market, it is definitely in the interest of the public in both counties.

"Private areas in corporate aircraft are being requested by an increasing number of prospective aircraft operators. They compare the BD-700-1A10 with the products of European and other foreign aircraft manufacturers who are able to offer this feature. For example, Airbus has stated that their corporate aircraft is not required to meet the standards of airline service. This differential creates an unfair competitive edge in this market. The exemption as proposed above is in essence only an alternative method of achieving an equivalent level of safety, while at the same time providing features attractive to prospective purchasers."

"Bombardier believes that the above arguments favor an exemption to permit doors to be installed in partitions, which divide a passenger cabin."

A summary of the original petition for exemption was published in the Federal Register on December 15, 1999 (64 FR 70105). The FAA finds, for good cause, that action on this petition should not be delayed by publication and comment procedures on the supplemental petition for the following reasons: A summary of the original petition for exemption was published in the Federal Register and there were no comments, the FAA has previously published other petitions for exemption on this same issue and has received no adverse comments, and further delay on this petition could cause economic harm to the petitioner and those modifiers whose materiel procurement decisions will be substantively affected by the decision on this petition.

As noted by the petitioner, there are differences between commercial and private use operation (whether by an individual or a corporation), that warrant consideration of the appropriate level of safety. The FAA is giving great attention to the issue of transport category airplanes operated in private use. There are several regulatory requirements, including the subject of this petition, that lend themselves to consideration for

modification when looking at the differences between commercial and private use operations. The FAA intends to summarize its views on these regulations and, ultimately, propose modifications to the requirements, where appropriate.

The current regulations allow the installation of interior doors, provided that passengers can not be seated on both sides of the door for takeoff and landing. The FAA is concerned that doors not be located between passengers and exits, and has proposed to prohibit such installations in the future in Notice of Proposed Rulemaking 96-9. However, until the regulations are revised, such doors may continue to be installed without the need to process a petition for exemption. Additionally, the FAA has recently issued exemptions for private use airplanes that would permit installation of doors between passenger compartments provided certain limitations are met. The petitioner has proposed most of these limitations as part of their petition.

As noted in previous dispositions of similar petitions, the FAA does not agree that all interior doors are equivalent, and has specifically made a distinction between doors where the failure of the door affects on the occupants of a room, and doors where other occupants are also affected. This issue is clearly quite significant to the segment of the public that will operate these airplanes. The flexibility to partition the airplane essentially arbitrarily is regarded as paramount to an acceptable interior. The FAA acknowledges the desirability of this feature from the operators' point of view. However, it continues to be the FAA position that, even with the limitations proposed, an equivalent level of safety cannot be provided when doors span the main cabin aisle. In the petition, the petitioner essentially acknowledges that the level of safety may not be the same, but states that it is appropriate for the type of operation involved, and similar to that of commercial operation. In recognition of the apparent conflict, the FAA is pursuing separate rulemaking directed at private use airplanes that will be used to reconcile the regulatory issues.

With respect to the BD-700-1A10, there is the potential for some occupants to be seated aft of the two emergency exits in the airplane and aft of an interior door. (One exit is located on the left side of the fuselage between stations 310 and 347 and the other exit is located on the right side of the fuselage between stations 622.1 and 642.1.) In this case, i.e., an interior door installed aft of station 642.1, it is not clear whether the door would be under the control of the occupants seated forward or aft of it. Therefore, the FAA considers that an additional limitation is necessary to address this case so that when a door is installed aft of station 642.1, persons seated aft of it can enter the compartment forward of it even if the door has been latched from the forward side. That is, there must be means to manually override a forward-side lock from the aft side of the door. This is similar to the situation where a lavatory door can be unlocked from the outside by crewmembers without special tools.

Additionally, since there are only two emergency exits installed in this airplane, the FAA considers that similar consideration must be given to any interior door installed forward of station 622.1, in order to provide ready access to both exits. Therefore, if a lock may be activated from the forward side of such a door, there must be means to manually override it from the aft side of the door. Conversely, if a lock may be activated from the aft side of such a door, there must be means to manually override it from the forward side of the door.

The FAA notes that, in the grant of exemption issued by Transport Canada (Exemption No. 99-01, dated September 3, 1999) the same sorts of limitations are required for all interior doors, including those that are currently permitted by the regulations. While the FAA agrees that this provides an enhanced level of safety, as noted earlier, extending the limitations required here to all interior doors would essentially change the current requirements. Within the context of an exemption, the FAA considers this would create problems of scope. However, when new requirements are proposed, the FAA will consider this approach.

While the FAA is not aware of any specific incidents of economic harm as a result of different standards being applied to different private use airplanes, the FAA acknowledges that significant upgrading of the occupant safety standards in recent years has made this a distinct possibility. Furthermore, as more airplanes are utilized in executive operation, differences in certification bases will become more significant in terms of the burden of compliance. This issue is generally not a factor for commercial operation, because the operating rules are typically upgraded along with the type design standards, making the requirements effectively the same for all manufacturers. For privately operated airplanes, this is not the case. Thus while a grant of exemption is clearly in the interest of the segment of the public for which it is requested, the FAA agrees that the public at large has the potential to benefit by granting increased flexibility to the manufacture and modification of the BD-700-1A10.

Nonetheless, there exists the possibility that persons will be carried as passengers on these airplanes who, by virtue of their employment or some other relationship to the airplane's owner, may be compelled to fly. These persons will not be aware of the specific grants of exemption, and might assume that these airplanes were effectively equivalent to a commercial operator. For this reason, the FAA considers that it is necessary for each passenger to be made aware that the particular airplane does not comply with all of the occupant safety standards mandated for the airplane type in general. The FAA will allow each operator to determine how best to accomplish this notification, but will require that procedures be developed whereby each passenger is so informed, prior to flying on the airplane for the first time. The notification to any individual need only be accomplished once. This limitation is in addition to those proposed by the petitioner.

The approach to flight deck annunciation proposed by the applicant is generally acceptable. However, the use of blue or white lights to indicate the improper position of the door(s) is a non-standard indication for a condition that may require future corrective action (as discussed in § 25.1322(b)). While the indication itself is a certification compliance issue, the FAA considers that an amber light is appropriate.

While this grant of exemption cannot be said to provide the same level of safety that would be afforded were there strict compliance with the regulations, the resultant level of safety is consistent with other private use airplanes. In addition, the level of safety that results from this exemption is specifically requested and desired by that segment of the public, namely the owners, that will fly on these airplanes. The FAA also notes that no other parties have expressed an interest in this petition.

After considerable deliberation, the FAA has concluded that the installation of interior doors, with certain limitations, can be accepted. In order to maximize the level of safety, the FAA will require that certain limitations, including some as proposed by the petitioner, be made mandatory to permit such installations. As noted previously, there are precedents for this decision involving other private use airplanes.

Finally, regarding the type of operation permitted under the terms of this exemption, the FAA notes that the petitioner refers to "non-scheduled" commercial operation. It should be noted that, whether or not operations are scheduled, this exemption does not permit fares to be collected in exchange for transportation. It is also the intent of this exemption that the airplane is not used to transport the general public (common carriage) even if fares are not collected. This exemption does not restrict one party from collecting fees from another party, as long as the airplane is operated for private use. That is, the airplane owner may lease the airplane to another party, who in turn operates the airplane.

In consideration of the foregoing, I find that a grant of exemption is in the pubic interest and will not adversely affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator (14 CFR § 11.53), the petition of Bombardier Aerospace for an exemption from the requirements of § 25.813(e) of 14 CFR, to allow installation of interior doors between passenger compartments, on the BD-700-1A10 airplane, is hereby granted, with the following provisions:

1. The airplane is not operated for hire, or offered for common carriage.

2. Each door between passenger compartments must be frangible.

3. Each door between passenger compartments must have a means to signal to the flight crew when the door is closed. Appropriate procedures/limitations to ensure that takeoff and landing is prohibited, when such compartments are occupied and the door is closed, must be established.

4. Each door between passenger compartments must have dual means to retain it in the open position, each of which is capable of reacting the inertia loads specified in § 25.561 of 14 CFR.

5. When doors are installed in transverse partitions, they must translate laterally to open and close.

6. When doors are installed in specified egress paths, each passenger must be informed that the airplane does not comply with the occupant safety requirements. This notification is only required the first time a person is a passenger on the airplane.

7. When doors are installed aft of station 642.1, it shall be possible for persons aft of the door to unlock or unlatch the door, without the use of tools. When doors are installed forward of station 622.1, it shall be possible for persons forward or aft of the door to unlock or unlatch the door, without the use of tools.

Issued in Renton, Washington, on June 29, 2000

/s/ Ali Bahrami
Ali Bahrami
Acting Manager
Transport Airplane Directorate
Aircraft Certification Service, ANM-100